

ひめえんごさくノ方ニハ *Corydalis orthoceras* v. *latifoliolata* ト命ジテ *Cordalis capillaris* フ異名ニスル。又筆者ガ一昨年ノ春武蔵秩父町ノ郊外デ採ツタモノハ小葉片ガ羽狀又ハ複羽狀ニ缺刻スルモノデアリ當時カラひめえんごさくト呼ンデ居ル學名ヲ *Corydalis orthoceras* var. *fumariæfolia* ト定メル、其理由ハ葉型ガ歐洲ニ普通ニアル *Fumaria muralis* ノ葉ニ酷似スルカラデアル。

## *Gymnogrammeæ* of Japan, Korea and Formosa

By M. TAGAWA

田川基二： 邦産ギムノグラシマ族ノ分類

According to the recent system of CHRISTENSEN *Gymnogrammeæ* comprise fourteen genera.<sup>1)</sup> Among these genera only four are found in our territory, they are *Coniogramme* FÉE, *Anogramma* LINK, *Gymnopteris* BERNH. and *Hemionitis* L. Two another genera of uncertain systematic position, *Monachosorum* KUHN and *Ptilopteris* HANCE, seem to fall under *Gymnogrammeæ*, but in the present paper I shall not touch upon them as they have been dealt with in my earlier paper.<sup>2)</sup>

The following is a practical key to the genera found in our territory:

Frond simple, dimorphic..... *Hemionitis* L.

Frond pinnate to compound, monomorphic.

Lower surface of pinna hidden in dense shaggy hairs.....

..... *Gymnopteris* BERNH.

Lower surface of pinna glabrous or nearly so.

Frond bipinnate or rarely pinnate, sori long, linear, with paraphysis, large species..... *Coniogramme* FÉE

Frond compound, sori short, oblong, without paraphysis, small species  
..... *Anogramma* LINK

<sup>1)</sup> VERDOORN'S Handbook of Pteridology 537. 1938.

<sup>2)</sup> Jap. Journ. Bot. 9: 107-120. 12 figs. 1937.

### Coniogramme FÉE

In his comprehensive work on this genus HIERONIMUS recorded four species from our territory. They are *C. fraxinea* DIELS from Formosa, *C. intermedia* HIERON. sp. nov. from Japan and Quelpart, *C. Fauriei* HIERON. sp. nov. from Quelpart and *C. japonica* DIELS from Japan. In addition to these species we have two another, the one is *C. parvipinnula* HAYATA from Formosa and the other is *C. gracilis* OGATA from the Island of Amami-Ōshima. *C. parvipinnula* has been rightly reduced to *C. procera* FÉE by CHRISTENSEN. *C. Fauriei* and *C. gracilis* are, I think, nothing but a variety of *C. japonica* DIELS. I can recognise the following four species as valid.

Veins all free. (Sect. *Euconiogramme*)

Pinnæ and pinnules entire on margin ..... *C. fraxinea*.

Pinnæ and pinnules serrate on margin.

Basal pinnæ having 1-4 pairs of pinnules ..... *C. intermedia*.

Basal pinnæ having more than 10 pairs of pinnules. . . *C. procera*.

Veins anastomosing. (Sect. *Dyctiogramme* [FÉE]).

Veins anastomosing to form 1 to several irregular lines of areolæ parallel to costa throughout.

Pinnæ 2-5 cm broad, base usually broadly cuneate to subtruncate, teeth patent or incurved: ..... *C. japonica*.

Pinnæ 1-1.5 cm broad, base cuneate, teeth depressed.

..... *C. japonica* var. *gracilis*.

Veins sparsely anastomosing to form scattered areolæ along costa, in a upper quarter of pinna they are all free. . *C. japonica* var. *Fauriei*.

**Coniogramme fraxinea** (DON) DIELS in Nat. Pflanzenfam. I-4. 262 (1899), pro parte; MATSUM., Ind. Pl. Jap. 1 : 299 (1904), pro parte; COPEL, Polypod. Phil. 66 (1905), pro parte; C. CHR., Ind. Fil. 185 (1905), pro parte; Suppl. II. 9 (1917); Contr. U.S. Nat. Herb. 26 : 307 (1931); v. A. v. R., Mal. Ferns 527 (1908); HIERON. in Hedwigia 57 : 286 (1916); C. CHR. et HOLTUM in Gard. Bull. 7 : 284 (1934); CHING, Ic. Fil. Sin. 4. pl. 166 (1937); C. CHR. et TARDIEU-BLOT in Not. Syst. 6 : 163 (1938).

*Diplazium fraxineum* DON, Prod. Fl. Nepal. 12 (1825).

*Gymnogramma fraxinea* (DON) BEDD., Ferns Brit. Ind. Suppl. 24 (1876).

*Syngramma fraxinea* (DON) BEDD., Handb. 386 (1883), pro parte.

*Neurogramma fraxinea* (DON) CHRIST, Farnkr. 63 (1897), pro parte; in WARB., Mons. 1 : 58 (1900), quoad pl. ex Form.

*Gymnogramma javanica* BL., Enum. 112 (1828); Fl. Jav. Fil. 95. t. 41 (1828); HOOK., Sp. Fil. 5 : 145 (1864), pro parte; HOOK. et BAK., Syn. Fil. ed. 2. 381 (1874), pro parte; ? HENRY, List Pl. Form. 116 (1896); RACIB., Pterid. Buit. 68 (1898), pro parte.

*Coniogramme javanica* (BL.) FÉE, Gen. Fil. 167. t. 14 B, f. 1 (1850-52); 10<sup>me</sup> Mém. 21 (1865), pro parte.

Nom. Jap. *Ōba-no-iwaganezenmai*, nom. nov.

Hab. Formosa. Specimens examined:—

Prov. Takao : Bōki in the basin of the River Sangō-kei, Kizan-gun (M. TAGAWA, No. 1500 ! Dec. 14, 1938); between Oogidaira and Nanhōzan in the basin of the River Sangō-kei, Kizan-gun (M. TAGAWA, No. 1539 ! Dec. 11, 1938); between Okuyama and Sansaro in the basin of the River Sangō-kei, Kizan-gun (M. TAGAWA, No. 1564 ! Dec. 15, 1938); between Kuwarusu and Amawan, Tyōsyū-gun (M. TAGAWA, No. 2189 ! Jan. 26, 1939); between Kuwarusu and Mt. Daibu, Tyōsyū-gun (M. TAGAWA, No. 2261 ! Jan. 25, 1939).

Geographical range. Sikkim-Himalayas, South India, Malaysia, Philippines, South-west China, French Indo-China.

In southern Formosa this species appears to be rather common in low-lying mountainous districts, where the following three species are seldom found.

***Coniogramme intermedia*** HIERON. in Hedwigia 57 : 301 (1916); C. CHR., Ind. Fil. Suppl. II. 9 (1917); Contr. U.S. Nat. Herb. 26 : 307 (1931); HAND.-MZT., Symb. Sin. 6 : 35 (1929); WU, WONG et PONG, Polypod. Yaosh. 212. t. 97 (1932); CHING, Ic. Fil. Sin. 3. pl. 143 (1935), cum var. *glabrata* et *villosa*; C. CHR. et TARDIEU-BLOT in Not. Syst. 6 : 163 (1938).

*Coniogramme fraxinea* var. *intermedia* (HIERON.) C. CHR. in Acta Hort. Gothob. 1 : 83 (1924).

*Gymnogramma javanica* BL. sensu HOOK., Sp. Fil. 5 : 145 (1864), pro parte; MIQ. in Ann. Lugd. Bat. 3 : 171 (1867); FR. SCHM., Fl. Sachal. 205 (1868);

HOOK. et BAK., Syn. Fil. ed. 2. 381 (1874), pro parte; FR. et SAV., Enum. Pl. Jap. 2 : 248 (1876).

*Gymnogramma javanica* var. *serrulata* MAKINO in Bot. Mag. Tokyo 10 : 181 (1896), non *G. serrulata* BL.

*Neurogramma fraxinea* CHRIST, Farnkr. 63 (1897), pro parte; in WARB., Mons. 1 : 58 (1900), pro parte.

*Coniogramme fraxinea* DIELS in Nat. Pflanzenfam. 1-4. 262 (1899), pro parte: KOM., Fl. Mansh. 140 (1900); Fl. URSS. 1 : 73 (1934); MASTUM., Ind. Pl. Jap. 1 : 299 (1904), pro parte; C. CHR., Ind. Fil. 185 (1905), pro parte; HAYATA, Fl. Mont. Form. 244 (1908); Mat. Fl. Form. 445 (1911); NAKAI, Fl. Kor. 2 : 410 (1911); in Bot. Mag. Tokyo 28 : 89 (1914); MIYABE et MIYAKE, Fl. Saghal. 633 (1915); MAKINO et NEMOTO, Fl. Jap. 1594 (1925); FOMIN in Fl. Sibir. Or. Extr. 5 : 155 (1930); MIYABE et KUDO, Fl. Hokk. Saghal. 36 (1930); OGATA, Ic. Fil. Jap. 3. pl. 111 (1930); KOM. et KLOB.-ALISOVA, Key Pl. Far East. Reg. USSR. 1 : 82 (1931); KITAGAWA in Rep. First Sci. Exped. Manch. IV-2. 82 (1935).

*Coniogramme fraxinea* var. *serrulata* NAKAI, Rep. Veg. Daisetsusan 43 (1930), non *G. serrulata* BL.; HARA in Bot. Mag. Tokyo 48 : 693 (1934).

Nom. Jap. *Iwagane-zenmai*.

Hab. Saghalien, Kuriles, Hokkaidō, Honsyū, Sikoku, Kyūsyū, Korea, Formosa. Specimens examined:—

Kuriles. Isl. Kunasiri (M. KōRIBA & R. YOSHII! July 29, 1933; J. OHWI, No. 1033! Aug. 20, 1931).

Hokkaidō. Rankosi (I. YAMAMOTO, No. 5130! Sept. 16, 1934); Mt. Moiwa, Sapporo (K. MIYABE! Aug. 3, 1903).

Honsyū. Prov. Mutu : in sylvis Aomori (U. FAURIE, No. 5253! Sept. 1902). Prov. Ugo : Kamikoani-mura, Kitaakita-gun (G. KOIE! Oct. 10, 1938). Prov. Rikutyū : Yamane-mura (Y. HUKUDA, No. 550! Aug. 17, 1931). Prov. Iwasiro : Hinoemata-mura (J. OHWI & M. TAGAWA, No. 668! Aug. 18, 1935). Prov. Izu : Mt. Zingozi-yama (T. YAMADA! Oct. 1917). Prov. Kai : Mutuai-mura (S. HUNŌ, No. 290! Oct. 3, 1937). Prov. Suruga : Sizuoka (J. SUGIMOTO, No. 41216! Oct. 10, 1937). Prov. Sinano : Suwa (H. TOBITA! Oct. 22, 1933). Prov. Mino : Yōrō (G. KOIDZUMI! Oct. 23, 1937). Prov. Ōmi : Mt.

Ibuki (H. TAMURA! Aug. 6, 1925). Prov. Yamasiro: prope Takao (M. TAGAWA, No. 467! July 26, 1932); Mt. Hiei-zan (M. TAGAWA, No. 95! Aug. 18, 1931). Prov. Yamato: Ryūmon-mura (G. KOIDZUMI! Oct. 10, 1922). Prov. Hōki: Mt. Mitoku-san (H. TANAKA! Aug. 3, 1932).

Kyūsyū. Prov. Tusima: Mt. Siro-dake (K. NAKASIMA, No. 219! Aug. 4, 1933). Prov. Tikugo: Mt. Gozen-dake (K. NAKASIMA, No. 220! Aug. 10, 1925). Prov. Tikuzen: Kamiakizuki-mura (K. NAKASIMA, No. 218! Dec. 15, 1929). Prov. Hizen: Nagasaki (U. FAURIE, No. 2849 pro parte! June 1899; No. 470! Nov. 1913); Mt. Kokuzō-yama (Z. TIBA! Oct. 24, 1920). Prov. Higo: Hitoyosi (K. MAEBARA, No. 3535! Oct. 19, 1938). Prov. Bungo: Mt. Turumi-yama (Z. TASIRO! Aug. 26, 1916); Handa-mura (Z. TASIRO! Sept. 10, 1921). Prov. Ōsumi: Ramune-Onsen (Z. TASIRO! July 26, 1917). Prov. Satuma: Kagosima (Z. TASIRO! Oct. 6, 1908).

Korea. Prov. Zennan: Isl. Quelpart (U. FAURIE, No. 72! Oct. 1906; No. 2157! Aug. 1907).

Formosa. Prov.?: Tappōsya (S. NAGASAWA, No. 721! Oct. 29, 1905). Prov. Taityū: Arisan (U. FAURIE, No. 612! June 1914). Prov. Taitō: inter Miyama et Kiri-yama (M. TAGAWA, No. 1048! Oct. 3, 1934). Prov. Takao: between Keinanzan and Isiyama, Kizan-gun (M. TAGAWA, No. 1611! Dec. 25, 1938); Keinanzan, Kizan-gun (M. TAGAWA, Nos. 1685, 1706! Dec. 24, 1938); between Kuwarusu and Mt. Daibu, Tyōsyū-gun (M. TAGAWA, No. 2248! Jan. 25, 1939); Bankinsing in silvis (U. FAURIE, No. 229! Feb. 1914).

Geographical range. India, China, French Indo-China, Manchuria, Easternmost Siberia.

This species is a representative of tropical *C. fraxinea* DIELS in the temperate zone, and has long been confused with it, but differs from it by the smaller pinnae of thinner texture and the position of hydathodes. Pinnae are distinctly serrate on margin and hydathodes extend till the base of teeth or well into the teeth, and are often connected with the slightly thickened margin by sclerenchymatous cells.

**Coniogramme procera** (WALL.) FÉE, 10<sup>me</sup> Mém. 22 (1865); Hieron. in Hedwigia 57: 317 (1916); C. CHR., Ind. Fil. Suppl. II. 10 (1917); in Contr.

U.S. Nat. Herb. **26** : 307 (1931); HAND.-Mzt., Symb. Sin. **6** : 35 (1929); CHING, Ic. Fil. Sin. **4**. pl. 168 (1937)

*Grammitis procera* WALL., List n. 3 (1828), nom. nud.

*Coniogramme parvipinnula* HAYATA, Ic. Pl. Form. **4** : 237. f. 166 (1914); MAKINO et NEMOTO, Fl. Jap. 1594 (1925).

*Gymnogramma javanica* BL. sensu Hook., Sp. Fil. **5** : 145 (1864), pro parte; Hook. et BAK., Syn. Fil. ed. 2. 381 (1874), pro parte.

Nom. Jap. *Uzyō-iwagane*.

Hab. Formosa. Specimens examined :—

Prov. Taityū : inter Hōsya et Numanohira (M. TAGAWA, No. 518 ! Aug. 19, 1934). Prov. Tainan : Arisan (B. HAYATA & S. SASAKI ! Jan. 1912. Type of *C. parvipinnula* HAYATA in Herb. Tokyo Imp. Univ.). Prov. Takao : between Takimi and Hinokiyama, Kizan-gun (M. TAGAWA, No. 1623 ! Dec. 26, 1938).

Geographical range. Himalayas to South-west China.

A large handsome species marked by the ample lamina bipinnate from base to nearly apex and the small horizontally patent pinnules with truncate sessile base. In late years *C. parvipinnula* HAYATA from Formosa has been rightly united with continental *C. procera* FÉE by CHRISTENSEN. It is evidently a rare species in Formosa and is found in deep forests of high mountainous districts.

**Coniogramme japonica** (THUNB.) DIELS in Nat. Pflanzenfam. I-4. 262 (1899); MATSUM., Ind. Pl. Jap. **1** : 300 (1904); C. CHR., Ind. Fil. 185 (1905); in Acta Hort. Gothob. **1** : 83 (1924); HAYATA, Mt. Fl. Form. 445 (1911); NAKAI, Fl. Kor. **2** : 410 (1911); in Bot. Mag. Tokyo **28** : 89 (1914); Hieron. in Hedwigia **57** : 323 (1916); MAKINO et NEMOTO, Fl. Jap. 1594 (1925); HAND.-Mzt., Symb. Sin. **6** : 36 (1929); OGATA, Ic. Fil. Jap. **3**. pl. 112 (1930); CHING in Sinensia **3** : 340 (1933).

*Hemionitis japonica* THUNB., Fl. Jap. 333 (1784); Sw., Syn. Fil. 21 (1806); Willd., Sp. Pl. **5** : 130 (1810).

*Gymnogramma japonica* (THUNB.) DESV. in Berl. Mag. **5** : 305 (1811); Spreng., Syst. Veg. **4** : 40 (1827); Kunze in Bot. Zeit. **6** : 493 (1848); Hook., Sp. Fil. **5** : 151 (1864); Miq. in Ann. Lugd. Bat. **3** : 171 (1867); Hook. et BAK., Syn. Fil. ed. 2. 390 (1874); Fr. et Sav., Enum. Pl. Jap. **2** : 249 (1876).

*Dyctiogramme japonica* (THUNB.) PR., Epim. Bot. 263 (1849).

*Dyctiogramme japonica* (THUNB.) FÉE, Gen. Fil. 171. t. 15 A, f. 2 (1850-52), non PR.

*Notogramme japonica* (THUNB.) PR. ex MOORE, Ind. Fil. 317 (1861).

*Taenitis blechnoides* SW. sensu KUHN, Chaetopt. 9 (1882), quoad pl. ex Jap.; MATSUM., l.c. 348; MAKINO et NEMOTO, l.c. 1666.

Nom. Jap. *Iwagane-sō*.

Hab. Honsyū, Sikoku, Kyūsyū, Korea, Formosa. Specimens examined:

Honsyū. Prov. Ugo: Maeda-mura, Kitaakita-gun (G. KOIE! Dec. 1, 1938). Prov. Sagami: Zinmuzi (M. TAGAWA, No. 2478! July 16, 1938). Prov. Suruga: Sizuoka (J. SUGIMOTO! Oct. 10, 1937). Prov. Yamasiro: prope Takao (M. TAGAWA, No. 462! July 26, 1932); Uzi (M. TAGAWA, No. 332! Nov. 23, 1930). Prov. Kii: between Miyai and Yunomine (G. KOIDZUMI! July 30, 1922). Prov. Bittyū: Hirakawa-mura (Z. YOSINO! Aug. 10, 1930).

Sikoku. Prov. Tosa: Kōchi (U. FAURIE, No. 11969! Nov. 22, 1893).

Kyūsyū. Prov. Hizen: Mt. Iwaya-yama (Z. TASIRO! Jan. 11, 1909); Nagasaki (U. FAURIE, No. 2849 pro parte! June 1899); Mt. Tara-dake (H. YOKOO! Oct. 6, 1935). Prov. Higo: Taneyamamura (Y. SIMADA, No. 5041! Oct. 10, 1927); Itibu (K. MAEBARA, No. 3646! Dec. 26, 1938). Prov. Satuma: Mt. Zyussōzan (Z. TASIRO! Aug. 16, 1917).

Korea. Prov. Zennan: in petrosis prope cascadas Hongno, Quelpart (U. FAURIE, No. 2160! Aug. 1907); Mt. Hakuyō-san (G. KOIDZUMI! Sept. 4, 1932).

Formosa. Prov. Taihoku: Mt. Nanko-taisan (J. OHWI, Nos. 3922, 3923, 3924! July 17, 1933).

Geographical range. China.

As to this well known species I have nothing to mention here.

***Coniogramme japonica* var. *Fauriei* (HIERON.) TAGAWA, comb. nov.**

*Coniogramme Fauriei* HIERON. in Hedwigia 57: 320 (1916).

Nom. Jap. *Inu-iwaganesō*, nom. nov.

Hab. Korea, Honsyū. Specimens examined:—

Honsyū. Prov. Mino: Hokunō-mura (K. SIODA! July 15, 1928). Prov. Tanba: Mt. Myōkō-zan (Y. ARAKI! Oct. 27, 1927). Prov. Yamasiro: Kurama

(N. KINASI ! Nov. 28, 1920).

Korea. Quelpart (U. FAURIE, No. 73 ! Oct. 1906).

Geographical range. Endemic.

A rare variety, intermediate between *C. intermedia* HIERON. and *C. japonica* DIELS. This has originally been proposed by HIERONIMUS as a distinct species, but it appears to be founded upon too weak characters. Veins are sparsely anastomosing to form areolæ here and there along costa, but in upper one-fourth of pinna they are all free. The shape of teeth and the distance of hydathods from the teeth are not different from the typical form.

**Coniogramme japonica** var. **gracilis** (OGATA) TAGAWA, comb. nov.

*Coniogramme gracilis* OGATA in Journ. Jap. Bot. **11** : 32 (1935); Ic. Fil. Jap. **6**, pl. 260 (1935).

*Notogramme japonica* f. *gracilis* (OGATA) H. ITÔ in Bot. Mag. Tokyo **53** : 25 (1939).

*Pteris cretica* L. sensu CHRIST in Bull. Herb. Boiss. sér. 2. **1** : 1016 (1901); MATSUM., Ind. Pl. Jap. **1** : 393 (1904).

Nom. Jap. *Hosoba-no-iwaganesô*.

Hab. Ryūkyū. Specimens examined :—

Isl. Amami-Ōsima (U. FAURIE, No. 4582 ! July 1900); Nase, Isl. Amami-Ōsima (H. ŌBA ! Nov. 1936).

Geographical range. Endemic.

An insular variety with much narrower pinnae. Pinnae linear-lanceolate, gradually attenuated to the long acuminate apex, cuneate at base, 1–1.5 cm broad, teeth depressed, not so sharp as in the type, veins more ascending, the lowest pinnae simple, or two- to three-divided. The typical form of *C. gracilis* OGATA is considerably different from *C. japonica* DIELS and appears to be a valid species. But some form of *C. japonica* DIELS approach to *C. gracilis* in the size and shape of pinnae, the venation, and the shape of teeth, and it seems, therefore, to be proper to regard *C. gracilis* OGATA as a variety of variable *C. japonica* of wide distribution.

### **Anogramma** LINK

This and the next genus have been added to the Flora of Formosa in recent years.



**Anogramma leptophylla** (L.) LINK, Fil. Sp. 137 (1841); FÉE, Gen. Fil. t. 19 A, f. 1 (1850-52); DIELS in Nat. Pflanzenfam. I-4. 258 (1899); C. CHR., Ind. Fil. 58 (1905); in Dansk Bot. Ark. **7** : 109 (1932); SIM, Ferns South Afr. ed. 2. 193. pl. 109, f. 1 (1915); DOBBIE, New Zeal. Ferns ed. 2. 336 (1921); SUZUKI in Journ. Jap. Bot. **12** : 187. f. 1, 2 (1936), excl. syn. *Gymnogramma Fauriei* CHRIST et *Anogramma Fauriei* CHRIST.

*Polypodium leptophyllum* L., Sp. Pl. **2** : 1092 (1753).

*Grammitis leptophylla* (L.) SW., Syn. Fil. 23, 218. t. 1, f. 6 (1806); WILLD., Sp. Pl. **5** : 143 (1810); BENTH., Fl. Austr. **7** : 776 (1878).

*Gymnogramma leptophylla* (L.) DESV. in Ber. Mag. **5** : 305 (1811); HOOK. et GREV., Ic. Fil. t. 25 (1827); HOOK., Sp. Fil. **5** : 136 (1864); BEDD., Ferns S. Ind. t. 270 (1864); Handb. 382 (1883); HOOK. f., Handb. New Zeal. Fl. 383 (1864); MILDE, Fil. Eur. Atl. 20 (1867); HOOK. et BAK., Syn. Fil. ed. 2. 383 (1874); KUHN, Chaetopt. 23 (1882); LUERS. in RABENH., Kryptogamenfl. **3** : 63. f. 69 (1889); CHRIST, Farnkr. 65 (1897).

Nom. Jap. *Hani-karakusa*.

Hab. Formosa. Specimens examined :

Prov. Taihoku : Mt. Taihei-zan (A. NOGUTI ! Aug. 25, 1932). Prov. Sinitiku : between Mogiri and Hasibami, Taiko-gun (I. SIMOZAWA ! July 18, 1938). Prov. Taityū : Taikwan (T. SUZUKI, No. 13290 ! July 28, 1935).

Geographical range. West and South Europe, North Africa, Atlantic Islands and Abyssinia through tropical Africa to Cape and Madagascar, India, Australia, New Zealand, Argentine, (Mexico ?).

The plant from Formosa is slightly different from the European type in having the more deeply coloured stipe and rachis. Stipe is shining, castaneous or reddish brown throughout, and rachis is reddish brown but greenish upwards. In the colour of stipe and rachis Formosan plants are identical with *A. microphylla* (HOOK.) DIELS from Himalayas to China, but lamina is quite different.

#### Excluded species

*Anogramma Makinoi* (MAXIM.) CHRIST is now known as **Pleurosoriopsis Makinoi** (MAXIM.) FOMIN.

*Anogramma Fauriei* (CHRIST) CHRIST is a near relative of *Asplenium varians*

WALL. The name has been changed to **Asplenium subvarians** CHING.<sup>3)</sup>  
*Asplenium siobarense* KOIDZ.<sup>4)</sup> is a later typonym.

### **Gymnopteris** BERNH.

**Gymnopteris vestita** (WALL.) UND. in Bull. Torr. Cl. **29** : 627 (1902) ; C. CHR., Ind. Fil. 342 (1905) ; in Contr. U.S. Nat. Herb. **26** : 307 (1931) ; HAND.-MZT., Symb. Sin. **6** : 36 (1929) ; HU et CHING. Ic. Fil. Sin. **1**. pl. 29 (1930).

*Grammitis* ? *vestita* WALL., List n. 12 (1828), nom. nud.

*Gymnogramma vestita* (WALL.) PR., Tent. 218 (1836), nom. nud. ; HOOK., Ic. Pl. t. 115 (1837) ; Sp. Fil. **5** : 143 (1864) ; HOOK. et BAK., Syn. Fil. ed. 2. 379 (1874) ; CLARKE in Tr. Linn. Soc. II. Bot. **1** : 568 (1880) ; CHRIST, Farnkr. 66 (1897).

*Syngramma vestita* (WALL.) MOORE, Ind. Fil. LX (1857) : BEDD., Ferns Brit. Ind. t. 154 (1866) ; Handb. 386 (1883).

*Hemionitis vesti'a* (WALL.) J. SM., Hist. Fil. 151 (1875).

*Neurogramma vestita* (WALL.) Diels in Nat. Pflanzenfam. I-4. 262 (1899) ; SUZUKI in Journ. Jap. Bot. **12** : 745 (1936).

Nom. Jap. *Birōdo-kizinoo*.

Hab. Formosa. Specimen examined :—

Prov. Taityū : Rakuraku (A. NOGUTI ! Aug. 21, 1932).

Geographical range. Himalayas to China.

### **Hemionitis** L.

**Hemionitis arifolia** (BURM.) MOORE, Ind. Fil. 114 (1859) ; CLARKE in Tr. Linn. Soc. II. Bot. **1** : 576 (1880) ; BEDD., Handb. 413 (1883) ; CHRIST, Farnkr. 60 (1897) ; DIELS in Nat. Pflanzenfam. I-4. 262 (1899) ; MATSUM., Ind. Pl. Jap. **1** : 309 (1904) ; C. CHR., Ind. Fil. 345 (1905) ; COPEL., Polypod. Phil. 67 (1905) ; MATSUM. et HAYATA, Enum. Pl. Form. 611 (1906) ; v. A. v. R., Mal. Ferns 547 (1908) ; Suppl. 332 (1916) ; MAKINO et NEMOTO, Fl. Jap. 1630 (1925) ; C. CHR. et TARDIEU-BLOT in Not. Syst. **6** : 164 (1938).

*Asplenium arifolium* BURM., Fl. Ind. 231 (1768).

*Gymnogramma arifolia* (BURM.) KUHN in Ann. Lugd. Bat. **4** : 283 (1869).

<sup>3)</sup> C. CHR., Ind. Fil. Suppl. III. 38. 1934.

<sup>4)</sup> Acta Phytotax. Geobot. **5** : 50. 1935.

*Hemionitis cordata* HOOK. et GREV., Ic. Fil. t. 64 (1828); BEDD., Ferns South. Ind. t. 53 (1863); HOOK., Sp. Fil. **5** : 192 (1864); HOOK. et BAK., Syn. Fil. ed. 2. 398 (1874); HARR. in Journ. Linn. Soc. **16** : 33 (1877); HENRY, List. Pl. Form. 116 (1896).

*Hemionitis sagitta* FÉE, Gen. Fil. 172. t. 14 D (1850-52).

*Gymnogramma sagitta* (FÉE) ETtingsh. in Denksch. Ak. Wien **22** : 102. t. 11, f. 10 (1864).

Nom. Jap. *Inu-amisida*.

Hab. Formosa. Specimen examined :—

Prov. Takao : Kōtan, Tairyō-syo, Hōzan-gun (M. KAN ! Aug. 2, 1931).

Geographical range. Tropical Asia.

It is more than half a century since this species was recorded from low-lying districts of southern Formosa, but it seems to be very rare, and the specimens cited above is a only one which I have examined. The Formosan plant is slightly different from the Indian type in the shape of frond. Sterile frond with stipe 2-3 cm long, lamina oblong or ovate-oblong, 3-5 cm long by 1.5-2.5 cm wide, apex obtuse or rounded, base deeply cordate with rounded lobes, fertile frond with stipe about 20 cm long, lamina cordate-triangular, about 3 cm long by 2 cm wide, apex obtuse, base deeply cordate with rounded lobes.

Finally I wish to express my best thanks to Mr A. NOGUTI, Mr I. SIMOZAWA and Mr T. SUZUKI, who have been kind enough to contribute me the valuable specimens of Formosan rare species.

### 摘 要

CHRISTENSEN 氏ノ分類ニ從ヘバギムノグラシマ族 *Gymnogrammeæ* ニハ 14 屬アルガ、コレヲウチ日本ニ産スルモノハ僅ニ 4 屬デアル。コノ外ニむかごしだ屬 *Monachosorum* KUHN トふじしだ屬 *Ptilopteris* HANCE トモコノ族ニハイルモノト思ハレルガ、コノ 2 屬ニ就テハ一昨年報告シタカラ、次ノ 4 屬ノミヲ取扱フコトニシタ。

#### Coniogramme FÉE いはがねせんまい屬

HIERONIMUS 氏ノ邦産ノ種類トシテ *C. fraxinea* DIELS, *C. intermedia* Hieron., *C. Fauriei* Hieron., *C. japonica* DIELS ノ 4 種ヲアゲタ。コノ他ニ早田先生ノ新種 *C. parvipinnula* HAYATA ガアリ、又緒方氏ノ新種 *C. gracilis* OGATA ガアル。コレヲ 6 種ヲ整理スルト結局次ノ 4 種ニナル。

## 脈ハ網狀ナラズ

羽片及ビ小羽片ハ全邊 ..... *C. fraxinea*

## 羽片及ビ小羽片ハ鋸齒縁

最下ノ羽片ニハ 1 乃至 4 對ノ小羽片アリ ..... *C. intermedia*最下ノ羽片ニハ 10 對以上ノ小羽片アリ ..... *C. procera*

## 脈ハ網狀ヲナス

網目隙ハ羽片ノ中肋ニ沿ヒソノ全長ニ互リ不規則ニ 1 乃至數列ニ並ブ

羽片ハ幅 2 乃至 5 糧、基脚ハ普通廣楔形乃至殆ド截形、鋸齒ハ開出又ハ内曲ス ..... *G. japonica*羽片ハ幅 1 乃至 1.5 糧、基脚ハ楔形、鋸齒ハ壓伏 *C. japonica* var. *gracilis*側脈ハ疎ニ連結シテ其處此處ニ少數ノ網目隙ヲ作り、シカモ羽片ノ先端 4 分ノ 1 バカリノ所デハ全ク游離ス ..... *G. japonica* var. *Fauriei****C. fraxinea* DIELS おはぼのいはがねぜんまい (新稱)**いはがねぜんまいニ比シ葉ハ大、羽片ハ遙ニ廣濶、且ツ全邊、臺灣ノ山地 1000 米前後ノ所デハソノナニ珍クモナイ。海外デハヒマラヤ地方、南印度、馬來群島、フィリッピン、印度支那、支那西南部ニアル。***C. intermedia* HIERON. いはがねぜんまい**普通ノ種類。北ハ樺太千島カラ南ハ臺灣ニ至ル全國ニアル。海外デハ印度、印度支那、支那、滿洲、沿海州ニアル。久シク *C. fraxinea* ト混同セラレテキタガ、羽片ガ狭ク全邊デアリ、脈ノ先ガ鋸齒ノ下底ニ達スルカ又ハソレ以上ニモ及ブノデ區別スルコトガデキル。***C. procera* FÉE うじやういはがね**いはがねぜんまいニ似テキルガ葉ハ遙ニ大ク、羽片ハ上部ノモノマデモ羽狀ニ分裂シ、最下ノ羽片ニハ 10 對以上ノ小羽片ガアル。臺灣ノ高山ノ密林中ニ稀ニアル。海外デハヒマラヤ地方及ビ支那西南部ニアル。早田先生ハコレヲ新種ニシテ *C. parvipinnula* HAYATA ト命名セラレタガ近年ニナツテ CHRISTENSEN 氏ハヒマラヤノ *C. procera* FÉE ト同種ニシタ。***C. japonica* DIELS いはがねざう**

コレモ普通ノ種類デ本州、四國、九州、南鮮、臺灣ニアリ、海外デハ支那ニアル。

***C. japonica* var. *Fauriei* TAGAWA いぬいはがねざう (新稱)**側脈ハ極メテ疎ニ網狀ニ連結シ、網目隙ハ其處此處ニ少シシカナイ。羽片ノ先ノ方 4 分ノ 1 バカリノ部分デハ全ク游離シテキル。コレハ FAURIE 氏ガ濟州島デ採集シタ標本ヲ Type ニシテ HIERONIMUS 氏ガ *C. Fauriei* HIERON. ト命名シタモノデアルガ、筆者ハいはがねざうニ比シヤット變種ニナル程度ノ差シカナイト思フ。美濃、丹波、山城ニモアルガ稀デアル。

**C. japonica** var. **gracilis** TAGAWA ほそばのいはがねさう

いはがねさうニ比シ羽片ハ遙ニ細ク元幅 1 乃至 1.5 糎、從ツテ側脈ハ著シク斜上シテキル。脈序ハいはがねさうト同ジク網目隙ハ澤山ニアル。鋸齒ハズツト低平デアル。最下ノ羽片ハ分岐シテキナイカ又ハ 2 岐 3 岐シテキル。明瞭ナ獨立種ノヤウニモ思ハレルガ、いはがねさう羽片ノ細イモノハヨホドコレニ近ヅクノデ變種ニシタ。奄美大島ノ特産。

**Anogramma** LINK はにからくさ屬

**A. leptophylla** LINK はにからくさ

全世界ノ熱帶溫帶ニ廣ク分布シテキルガ、我邦デモ近年鈴木時夫氏ガ臺灣デ發見セラレタ。コノ屬ノ植物ハ今日ノ所我邦デハコノはにからくさ一種シカナイ。

**Gymnopteris** BERNH. びろうどきじのを屬

**G. vestita** UND. びろうどきじのを

コレモ近年鈴木時夫氏ガ臺灣中部ノ高山デ發見セラレタ珍種。海外デハヒマラヤ地方ヤ支那ニアル。

**Hemionitis** L. いぬあみしだ屬

**H. arifolia** MOORE いぬあみしだ

亞細亞ノ熱帶ニハ廣ク分布シテキル種類デアルガ、臺灣デハ稀ナノカ筆者ハ高雄州鳳山郡産ノ標本ヲ一枚ミタキリデアル。

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## Miscellaneous Notes on the East Asiatic Uredinales with Special Reference to the Japanese Species (V)

By

Naohide HIRATSUKA

平塚直秀：東亞銹菌類雜考（其五）

94) **Puccinia Makiana** HIRATSUKA, f. nov. spec.

Soris teleutosporiferis amphigenis, plerumque epiphyllis, sparsis vel aggregatis, saepe confluentibus, minutis, rotundatis, 0.1~0.6 mm diam., compactis, tectis, duris, atro-brunneis vel atris; paraphysibus numerosis coalitis, brunneolis; teleutosporis clavatis vel lineari-clavatis, apice truncatis, rotundatis vel acutiusculis, incrassatis (4~6  $\mu$ ), medio non vel parum constrictis,